FINANCIAL INNOVATION, FINANCIAL DEREGULATION AND THEIR EFFECT ON SMALL FIRM FINANCING

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I. ABSTRACT

This paper attempts to argue that the combined effects of financial innovation and deregulation have undermined the credit condition of small firms. The argument is based on two hypothesis: First, small, localized financial institutions are better equipped to serve the credit needs of small firms. Second, as a result of financial innovation and deregulation, many, often localized, small financial institutions have been absorbed into larger financial organizations. With this structural change, smaller firms have been dealt a major blow in their uphill battle to obtain adequate and affordable credit. Closing this newly created credit gap does not imply a return to the old regulatory structure. With some minor reconsiderations, the new structure can meet the credit needs of small firms.

Smaller firms have historically been at a disadvantage in obtaining adequate credit at a reasonable price. This is partly due to their particular characteristics. Smaller firms have a relatively higher human/non-human capital ratio, which undermines their ability to demand credit, based on their total capital worth. A more important factory however, is the asymmetry of information between insiders and outsiders to the firm. Unlike large, publicly held firms, private firms are not obligated by law to provide public financial statements. As a result, credit worthiness of small firms is often based on the informal knowledge the lender has obtained on the firm's operation and human capital.

It is at this junction that the structure of the lending institution plays an active role in affecting the credit condition of small firms. Smaller, localized financial institutions can collect information that is often unavailable to large, centralized institutions at a fraction of the cost. In addition, there is a cost disincentive for large institutions to make small loans. The high processing and monitoring costs create relative high average costs. Thus, large institutions often find it relatively unprofitable to lend to small borrowers. Small financial institutions, lacking the capability to make large loans, but having a comparative advantage in making small business loans find it profitable to lend to small, local firms.

Most of the recent financial innovations were initiated by the monetary policies of the middle and late sixties. These policies caused shortages of funds and shrinkages of profits in the financial sector due to periodic crunches and an attempt to " twist " the term structure of interest rates to raise the yields on long-term investment. The response of financial institutions was to find new ways to bypass the regulatory framework to raise the needed funds and profits. Examples of these innovations are Certificate of Deposit, the Eurodollar Market, Money Market Mutual Funds, and the various activities of Bank Holding companies.

By introducing new instruments and creating new markets, these innovations altered the fundamental structure of the financial market. By the late seventies the traditional walls differentiating the various financial sectors were in a state of demise. Many small institutions that had effectively operated for years under the regulatory structure of the l930's now found themselves incapable of operating under these new conditions. Mergers and acquisitions, spurred by the record level of failing institutions, were increasing at an alarming rate. Geographic and prohibitory statutes were bypassed through the use of Bank Holding Companies.

On the whole, the larger, more diversified institutions fared better than others, causing a rift among the various financial institutions. Regulators, themselves, found the Post Depression statutes powerless in controlling financial institutions or insuring the effectiveness of monetary policies.

Faced with this fast changing structure, financial institutions and regulators began placing demands on the legislative body to alter the laws governing the financial market. Hence the 1980 DIDMCA and the 1982 Garn-St. Germain act. Once again, larger financial institutions were more successful in protecting their interests, further widening the rift between large and small financial institutions. Thus, as a result of financial innovation and deregulation, the institutions best suited to meet the credit needs of small firms have been greatly undermined.

This study does not imply a necessity of returning to the old regulatory structure. It does imply, however, that both financial regulators and institutions should consider the potential benefits of maintaining, and possibly reconstituting, the small localized financial institution within the new centralized framework.

If the independent, localized nature of the small institution is maintained, mergers, acquisitions and branch banking may prove beneficial for all concerned parties. Small financial institutions can continue their profitable relation with small firms. Large institutions, on the other hand, may find the relative steady flow of funds and profits from these small institutions an excellent hedge against the fluctuations often associated with large scale financing. The regulator's demand for stability and efficiency will also be met in this scenario.

II. INTRODUCTION

This work will attempt to describe the effects of recent financial innovation and deregulation on small firm credit [1]. It will argue that small firm credit is best provided by small, independent, local financial institutions. Financial innovation and deregulation, however, have increased the average size and level of centralization of the financial sector. In doing so, many of the institutions best suited to meet the credit needs of small firms have been reduced. It will also contend that there is no indication that the new structure will replace the credit gap created by the demise of the small, localized financial institution.

The paper is divided into three sections. The first of which will consider the structural factors specific to small firm credit. The second will outline the major innovations and regulatory changes in the financial market since the Great Depression. Building on these two sections, the last section will consider the various views on the effects of innovation and deregulation on the credit condition of small firms.

III. CHARACTERISTICS OF SMALL FIRM FINANCING

The intention of this section is to give a critical overview of the literature on small firm financing. The common view in the literature holds that small firm lending is associated with a higher risk associated with small firms. This is mostly attributed to the relative higher internal flexibility of small firms [2].

This view is contested on several theoretical grounds. First, there appears to be little theoretical grounds that flexibility, in and of itself, should be a significant factor. Secondly, this view fails to consider the borrower-lender relation as a determining factor in the credit assessment process. However, there are several features specific to small firm lending which indicate that this relation may be an important variable in determining the credit assessment of small firms. Then, it is reasonable to suspect that different financial institutions, by virtue of their differing lending relations, will vary in their ability to assess the credit condition of small firms.

A notion of expected profitability of lending

The notion of expected profitability best encompasses all of the crucial elements involved in the process of small firm lending. A mathematical expression of this notion may take the following form

$$(1) \qquad EP = F\ \frac{(ER)}{(Er)} = F\ \frac{K(i_1 - i_0) - C}{EpK(1 + i_0)}$$

Where:
EP = Expected profitability of small firm lending.
ER = Expected returns on small firm lending.
Er = Expected risk of losing the principal and interest.
K = Amount of loan.
i_1 = Interest paid on funds by lending institution.
i_0 = Interest paid by small firms.
C = Cost of producing the loan
Ep = Expected probability of losing the principal and interest on the loan.

The only variable in this model are the expected probability of losing the principal and interest on the loan (Er) and costs (C). These, in turn, are functions of a series of factors, and can he expressed as follows:

(2) Er = *F* (internal flexibility of the firm, asymmetry of information, expected exogenous risk…)
(3) C = *F* (information processing) = (asymmetry of information, nature of lender)

Any sort of business loan has a certain risk that is not associated with the specific qualities of the individual borrower. This sort of risk is determined by the general conditions of the borrower's industry, region and so on. This type of risk is placed under the category of expected, exogenous risk, and for the purpose of this study is held constant.

The internal flexibility of small firms

The high internal flexibility of small firms is often mentioned in the literature as one of the factors determining the higher risk associated with small firm lending. This, it has been argued, makes risk assessment difficult and volatile over time[3]. This argument is founded on the following rationale: Risk assessment is based on the firm's existing mode of operation. If the firm alters its operation, be it sales,

production, or purchasing, the previous loan assessment will no longer be valid. Smaller firms, having a smaller decision making body, can alter their mode of operation much faster than larger firms. Hence, it is argued that lending to smaller firms is associated with a higher and more volatile default risk factor.

A closer examination of the nature of small firm lending, however, indicates that this factor should not significantly affect the risk of small firm lending. Assuming that small firm lending is associated with a higher default risk, there are a few factors that make it possible, although not without costs, to control default-risk, and in the worst scenario, regain the principle and possibly even the loan interest [4].

Admitting the worst-case scenario, where the small firm defaults on its loan, it does not, or at least it should not, imply that the capital and interest of this loan is lost. If a small firm defaults on its loan, the lender can usually regain at least the principle, since the greatest portion of the loans to small firms are secured by the firm's assets, as well as by the personal wealth of its owners. This is contrary to loans made to large firms, which are usually unsecured.

If lenders act prudently and monitor the borrowers activities, the worst-case scenario should hardly be the common case. Specifically, there are several tools that can be utilized for this purpose [5]. Loans to small firms are issued with a number of conditions, usually in the form of managerial restrictions [6]. This tool can be used to restrict small firms from moving into activities a greater perceived risk.

Finally, there is one factor that the literature does not seem to have so far considered. Loans to small firms have a high tendency of returning inside the bank's walls in the form of demand deposits [7]. This factor does not only seem to make small firm lending more profitable, as the above authors argue, but it can be used as a tool to closely monitor the borrower's activities [8]. Destinations of withdrawals can easily be ascertained, and any unusual cash or untraceable withdrawals can he monitored, by directly contacting the borrower.

One further comment must be made concerning the assertion that the higher flexibility of small firms is a significant contributor to the higher failure and thus default rate of small firms. There seems to be no study to support this hypothesis. On the other hand, there is reason to suspect that if small firm managers have a better understanding of their business, and if they have a vested interest in the success of their businesses, then the greater flexibility of smaller firms should enhance their ability to affront difficulties that could potentially lead to defaulting on their credit obligations. Both of these characteristics are widely accepted as accurately describing small firms.

Thus, if the lender acts prudently and utilizes the tools at hand, there is no reason why the internal flexibility of small firms should be a significant risk factor. Furthermore if this factor does become significant, the causes should be found not only with the small firm's operational structure, but also with the borrower-lender relation.

Asymmetry of information of small firms

The second major factor influencing small firm lending is the strong asymmetry of information between insiders and outsiders of small firms [9]. This factor decreases EP by increasing both C and Er. Costs (C) are increased as a result of the relative difficulty in obtaining and assessing needed information. Asymmetry of information also makes it difficult to assess many of the variables associated with default risk (Er) not only at the initial assessment, but also through the entire period of the loan.

The High Human-Capital/Total Capital Ratio of Small Firms

Another factor influencing expected risk (Er) is the high reliance of human capital as a basis for small firm lending. Smaller firms have historically had a higher human/non-human capital ratio. They have relied heavily on the specific knowledge and skill developed over time by the people involved in the firm's operation. While this characteristic may have enhanced the ability of small firms to affront difficult circumstances, it has also undermined their ability to obtain credit from lending institutions, as banks have not been willing to accept human capital as part of the firm's collateral. In some respect this is understandable. Human capital is not transferable, and future returns on it are difficult, if not impossible to garnish.

In the face of lack or asymmetrical information, however, the firm's human capital often becomes the only basis of a loan. The deciding factor will be whether or not the lender considers the managers and/or the owner(s) of the small firm to be a reliable and knowledgeable individual. Under these conditions, the evaluation of human capital becomes a very subjective process, purely based on the informal knowledge the lender has on the borrower [10].

If these are the factors differentiating small firm lending from large firm lending, then a simple notion of risk may not fully describe these differences. This simple notion excludes the higher cost(c) incurred by the specific nature of the information on small firm. More importantly, however, this simple notion of risk fails to specify where along the risk assessment process does this higher expected risk(Er), and to some extent the higher cost (C), factors, are determined. Specifically, it fails to capture how the specific informational and asset structure of small firms influences the borrower-lender relation.

The *expected profitability (EP)* notion and the *simple risk* notion of small firm lending will yield different results as to which type of lending institution is better suited to meet the credit needs of small firms. The simple risk notion, by emphasizing on the volatility and thus higher default risk of small firms, will suggest that larger financial institutions will be better suited to absorb this type of risk. The profitability notion, on the other hand, emphasizing on the borrower-lender will suggest that small, localized financial institutions should have a comparative advantage in providing for the credit needs of small firms.

These two approaches will also arrive at two differing conclusions as to the effects the recent structural changes will have on small firm lending. The former approach will conclude that the increase in size and concentration of the financial sector should improve the credit conditions of small firms. The basis for this conclusion is that the new structure will be better suited to absorb risk. The second approach argues that the recent changes in the financial market have undermined the existence of the small local institution, and has thus weakened the institutions best suited to meet the credit needs of small firms. Furthermore, there is no theoretical indication that larger institutions will fill the gap left by the disappearance of small, local financial institutions.

IV. THE HIGHER COSTS OF PRODUCING SMALL LOANS: SOME EVIDENCE OF ECONOMIES OF SCALE IN THE COMMERCIAL BANKING INDUSTRY.

Economy of Scale in Loan Production

The other factor influencing the profitability of small firm lending is the economy of scale in loan production. Although this does not influence the expected profitability (EP) of small firm lending directly, it does play an important role. It indirectly influences the availability and price of loans to

small firms by decreasing the average cost (and thus increasing the average profit) of large loans. The existence of economy of scale can be attributed to two basic factors. First, small loans have a fixed, or processing, cost comparable with large loans. Second, the variable, or monitoring, costs of loans made to small firms are also expected to be higher due to the asymmetrical nature of information. Hence the average production cost of small loans is expected to be higher than that of large loans [11].

Most of the literature does not seem to contest the argument that there are significant economies of scale in this industry [12]. In a study done by the Federal Reserve Functional Cost Analysis Program in 1978, and partly reproduced by Neil B. Murphy, the following data is presented [13]:

Regression results for commercial lending cost function, l978.
Dependent variable: Total Direct Cost (C). All variables in natural logarithms.

VARIABLE	Constant	N	AMX	LSZ	W	OFS
Coeffioient	-.8003	.8324	-.0231	.7885	.01729	.1418
Standard Error	.6906	.0240	.0080	.0263	.0795	.0222
t statistic	-1.16	34.67	-2.86	29.93	-.91	6.40

R^2 = .8385 F = 811.96 n = 788

Where: $C = aN^{b1} + AMX^{b2} + LSZ^{b3} + W^{b4} + OFS^{b5}$

And

C = Total direct cost of commercial lending function;
N = Average number of commercial loans;
AMX = Proportion of total loans in the form of agricultural loans;
LSZ = Average loan size;
W = Average wage rate;
OFS = Number of full service office.

From these results Murphy concludes that the evidence affirms “The existence of scale economies for both the number of loans and average size of loans”. There is one more important result from the above regression that should not go unnoticed: Not only is there economy of scale in the number and average size of loans, but also there is significant economy of scale in the number of full service branches a bank operates (OFS). Economy of scale in (OFS) makes bank expansion through branching economically feasible. The above equation was then manipulated to yield the following results [14]:

Average cost per dollar of commercial loan, and size of loan: 1978

Average cost per $ of loan	Size of loan
.0220	10,000
.0206	13,000
.0174	50,000
.0135	100,000
.0116	200,000
.0096	500,000

V. FACTORS CONTRIBUTING TO THE LOW LEVELS OF EQUITY FINANCING:

Although the relative importance of the equity market may have increased slightly over the past five to six years, the structural difficulties that have prevented small firms from fully tapping this market are still in place. Also there is no indication that this situation will significantly change for the foreseeable future [15]. The two most important equity market characteristics that have hindered the participation of small firms are the *high entry-barriers* and the *economy of scale* associated with public offerings.

High Entry-Barriers to Capital Markets

The high entry-barriers can be attributed to legal and accounting costs normally incurred in the preparation and maintenance of disclosure, registration, and selling requirements. State and federal authorities set these requirements [16]. There are several obvious reasons why these factors weigh more heavily on smaller firms. First, there is a certain fixed cost, which has been difficult to reduce, in meeting these legal requirements. Secondly, there is reason to believe that in the face of informational asymmetry, the accounting costs would be higher. When one considers that, on average, small firm offerings will have small flotation these costs represent a noticeable deterrent in issuing public offerings. Size and profitability requirements set by the SEC and the NASDAQ effectively prohibit many small firms from entering the secondary equity market [17]. This significantly undervalues the stocks of small firms, by forbidding their liquidation in this market. This may be one of the factors why institutional investors have so far not been willing to participate in many small public offerings [18].

Economy of Scale in Equity Flotation

Finally, the high cost and economy of scale associated with the flotation of public offerings has further undermined the ability of small firms to compete for equity finance. An example of these high costs and economy of scale is given by Andrews and Eismann. They present the following data and argue that "When the interest expense is added to the flotation cost, the first-year total cost can easily exceed 30%" [19]

Flotation costs for non convertible notes and debentures offered to the public through security dealers: 1971-1972

Size of issue ($ Millions)	Number	Cost as a percentage of gross proceeds
Under .50	1	14.0%
.5 - .99	2	9.0
1.0 - 1.99	3	17.0
2.0 - 4.99	11	6.2
5.0 - 9.99	19	3.1
10.0 - 19.99	80	1.9
20.0 - 49.99	252	1.4
50.0 - 99.99	191	1.2
100.0 - 499.99	99	1.0
over 500.00	1	1.0

Economy of scale may also be operative from the investor's side. This may be particularly true for large institutional investors. These institutions may incur lower transaction and research costs by investing sizeable amounts in large flotation [20].

The financial structure of small firms has also attributed to their inability to flourish in the capital market. Once again, the asymmetry of information specific to small firms has been the most important factor. Because of the asymmetry factor, investors may find it difficult to obtain timely information on small firms. First, this factor impedes the investor's ability to search out flotation by small firms. Secondly, it increases the perceived risk of small firms, and thus undervalues their stocks [21].

Asymmetry can also work the other way. Firms may not wish to disclose certain information vital to the company [22]. This factor may be operative with companies that have some type of comparative advantage in the market in which they operate.

Private Equity

A possible alternative to public equity is the issuance of private equity. While recent developments may have increased the ability of small firms to tap this market, structural blockages still exist, preventing many small firms from taking full advantage of this market.

Small firms have several advantages in utilizing this avenue. Flotation and reporting costs are noticeably lower. The flotation costs are obviously lower since these issues do not enter the much larger public market. They are bought and sold between a smaller, and often predetermined, number of individuals. Reporting costs, legal and accounting, are also lower because the SEC has adopted less stringent standards for this type of issuance. The recently adopted regulation D may be the most important development in this respect. This regulation reduces the SEC disclosure requirements as the size of issuance decreases. For example, the SEC has eliminated all disclosure requirements for private offerings of up to $500,000. Although firms must still meet state requirements. Offerings of up to $ 5 millions must provide relevant narrative information, of which only the last two years must be certified [23].

Another advantage for small businesses is that private equity contractual agreements can be tailored to meet the specific needs of the parties involved. For example, firms wishing to restrict some information can do so by contractual agreements. The problem of investment research and reporting costs on the part of borrowers may also be more manageable under these conditions. Borrowers might be more willing to supply previously restricted information, and lenders may be willing to pick up part of the reporting costs.

Venture Capital

Relevant to research and reporting costs is the phenomena of venture capital firms. Often the importance of these firms is not that they provide for the total credit needs of a firm, but rather that they act as intermediators. On one side, they prepare the borrower to enter the equity market, and on the other, they provide the information investors need to invest in these small firms.

Unfortunately, even with these new advantages, there are still structural hurdles preventing small firms from using this market to the full extent. The major stumbling block is the inability of small firms to enter the secondary market. This has prevented them from tapping the large resources of institutional investors.

There is no indication that the high cost of public issuance is going to substantially decrease in the near future. The SEC has taken some measures in decreasing these costs by adopting the shorter S-18 Form. However, even after considering this and other factors, the SEC report on Small Business Capital Formation concluded:

"Realistically, the costs of issuing securities may be difficult to reduce further…Although, fewer small business must comply with reporting requirements as a result of those adjustments, significant number of small business remain reporting companies and must conform to the same standards of disclosure of the largest multinational corporation" [24]

VI. HISTORICAL OVERVIEW OF THE STRUCTURAL CHANGES IN THE FINANCIAL SECTOR

As a response to the economic crisis of the late 20's and thirties congress introduced a series of legislations to control the financial markets. The Direct and Intermediary financial markets were separated, and different restrictions were placed on each sector. This separation was based on the notion that each sector ought to serve different and separate functions. The *Intermediary Sector* was to provide the public with deposit and loans in a safe and reliable fashion, and the *Direct Capital Market* was to provide a structure where investment and financing could occur on a more speculative basis. In order for these two sectors to serve their distinct functions, and to operate under different risk standards, Congress placed separate regulations on each market.

1930-1960: THE REGULATION PERIOD:

REGULATIONS ON THE INTERMEDIARY SECTOR.

The *Intermediary Sector* was to include commercial banks, depository and savings institutions (savings and loans, and mutual savings banks) and non-bank banks such as consumer banks and credit unions. The regulations on this sector can be included into roughly three categories: (1) usury laws, (2) portfolio restrictions, and (3) restrictions on geographic and other expansions.

Interest Rate Restrictions
Through the Banking Act of 1933 and 1935, as well as the Interest Rate Control Act of 1966, Congress set a zero limit on the interest paid on demand deposits. These acts also gave the Fed. the authority to control the interest paid on time and savings deposits (regulation Q). Through these regulations, Congress attempted to control the price of liabilities of the intermediary sector.

Portfolio Restrictions
Portfolio restrictions were placed on both the liability and asset of this sector. The purpose of these restrictions was to further subdivide the intermediary sector. The portfolio was subdivided so that *commercial banks* were allowed to issue commercial and industrial loans, as well as offer demand, time and savings deposits. *Depository and savings institutions* were allowed to provide mortgages and other real estate related loans, and offer time and savings deposits. The so-called *non-bank banks* were permitted to offer various types of shot-term credit and savings and time deposits.

Geographic Restrictions
The intermediary sector was also geographically segregated into state markets through the 1927 Mc Faden Act. Through this law and the Banking Act of 1933, the branching powers of national and state banks were equalized. Both types of banks were allowed to branch out within state boundaries as prescribed by state laws. Control of these individual state markets has been a continuous process with regulators attempting to apply a specific standard to entry, mergers and acquisition, and financial institutions attempting to bypass these regulations. The criterion of these regulations was to balance the needs of the banking industry with those of the community. This criterion has shifted over time and in

the face of different economic conditions.

The 1930's were a period of relative relaxation in mergers and acquisitions laws. This was a direct response to the dramatic increase in the number of bank failure during this period. The next set of events occurred during the 1950's. This decade witnessed a noticeable number of mergers and acquisitions by banks and bank holding companies (Bhc). Congress responded with the Layton Act of 1950 and the Bank Holding Act of 1956. The 1950 act stopped horizontal expansion by banks, and the 1956 act gave the Fed. the authority to approve formation and acquisitions of Bhc's. The 1960's was also a period where regulators attempted to contain the expansion of the intermediary sector. The two major events of this period were the 1960 Bank Merger Act, which applied the 1956 Bhc act to banks and the 1963 Supreme Court decision in the Philadelphia National Bank case, in which the Court affirmed the application of antitrust laws to bank mergers. This attempt, however, was foiled by the intermediary sector. Since the 1956 Act, defined Bhc as an organization of two or more banks, it left a loophole for one-bank holding companies (Obhc) to expand without any legal restriction. Through this avenue, banks were able to significantly increase their geographic and scope expansion. The Fed. responded by requiring reserves against liabilities raised by Obhc, and in 1970 Congress followed by extending the 1956 Bhc Act to Obhc.

REGULATIONS ON THE DIRECT CAPITAL MARKET [25]

With the enactment of the Banking Act of 1933 the Direct Capital Market was separated from the intermediary sector. The Direct Capital Market was to include institutions such as investment banks, brokerage houses and some activities of insurance companies. The regulations on this sector reflect its specific and distinct role as a speculative market. For this reason the regulations on this market had two specific purposes. First they were to ensure that investors were provided with the information necessary for "intelligent" investment. Secondly, various monopolistic practices such as price and decision making manipulations, were to be prevented. The following acts are the main staple of this regulatory structure:

The Security Act of 1933.
This was a companion to the Banking Act of 1933. It required the issuer of new securities to publicly disclose all relevant facts needed for an intelligent evaluation of the risk and prospects of ownership, This regulation was first administered by the Federal Trade Commission.

The Security and Exchange Act of 1934.
This act established which institutions needed to regulate this market. It first relegated the regulatory responsibility of the New York and other exchanges to the Fed. Not long after this enactment, these responsibilities were given to a new body, i.e., The *Security and Exchange Commission* (SEC). This act also establishes the right of independent, non-governmental organizations to set up rules of conduct for its members [26]. The prevention of price manipulation, and the monitoring of activities of " insiders " were also placed under the SEC.

The Public Utility Holding Company Act of 1935.
Through this act congress eliminated the monopolistic control of a few financiers in this industry.

The Investment Company Act of 1940.
This act requires that shareholders be given full and complete information on a trust's investment policy, list of holdings, income, etc. This act also limits the total number of investment bankers or brokers to a minority of the board of directors of a trust company.

1960 - 1979: THE STRUCTURAL INCOMPATIBILITY OF THE INTERMEDIARY SECTOR

Operation "Twist"
The greatest challenge to the intermediary sector came as a result of the monetary policies of the sixties. This decade experienced a relatively high rate of inflation, and a troublesome decline in real investment. In order to curb these two problems, the monetary authority undertook two basic steps. It contracted the money supply, and attempted to lower long-term interest rates at the cost of short-term rates. The latter objective was undertaken by initiating " Operation Twist" where the Fed. In order to twist the term structure of market rates bought long-term bonds while at the same time sold short-term bonds [27]. It appears that this operation, accompanied by other factors, did alter the term structure of interest rates.

However, these policies undermined the Intermediary Sector's ability to attract adequate funds in several ways. First, the tight monetary policy not only raised the interest rate in the unregulated money market above Regulation Q, but it also increased the competition with the Direct Capital Market for these decreasing funds. Secondly, the new interest rate term-structure cut into the profitability of the Intermediary Sector. This was especially true for Depository and Savings Institutions, which in general borrowed short and lent long.

Both sectors responded with a series of financial innovations [28]. As time and competition continued, these innovations became means not only of attracting more funds but also they became means to overcome the structural barriers set up during the 1930's. It was this middle step, whereby competition forced financial institutions to undermine the regulatory structure, which set the ground for the deregulation movement of the late 70's and 80's.

There were several structural changes that the Intermediary Sector went through as a result of these innovations. First, as the traditional intermediary function of maturity-transformation began to be less profitable, this sector began to find ways to bypass the various restrictions of entering into new activities. Secondly, as the power and abilities of larger institutions began to improve in respect to smaller institutions, the process of consolidation picked up pace. Thus, it was at this bypass in time that the interests, activities, and demands of the various types of financial institutions began to drift further apart. It was also at this point in time that the different needs, and demands, of financial institutions of various size were exacerbated.

For the most part, the portfolio restrictions bypassed by financial innovations occurred on the liability side of financial institution's balance sheet [29]. Most of these innovations were initiated by, and benefited, large financial institutions. Of the innovations that occurred during the period in question, the following are perhaps the most important for the purpose of this discussion:

Certificate of Deposits (CD).
One of the first innovations to circumvent liability restrictions was the introduction of *Certificate of Deposits (CD)* by the First National City Bank of New York in 1960. These instruments were first issued to foreign costumers, and later in 1961 were offered to large U.S. Corporations [30]. Other commercial banks, mostly through the use of Bhc, began offering Cds shortly after. For a period this instrument proved successful, especially with the development of a secondary market for CD's. The

Fed, however, quickly moved to control this new form of liability by extending regulation Q and reserve requirements for CDs. With this new regulation, this market effectively became subject to the Fed's monetary policy. Although after the June 1970 failure of Pen Central, the Fed removed this regulation for large CD [31].

The Federal Fund Market.

The second development was the expansion of the *Federal Fund Market*. Through this market, deficit and surplus institutions could come together and trade. Large commercial banks, with better lending ability, were able to tap the reserves of smaller, better asset-based banks, but with limited lending ability. Two rulings furthered the development of this market. In 1963, the Comptroller of the Currency removed any restrictions on the amount any national bank could lend to another, and in 1964 the Fed allowed member banks to borrow from non-member banks [32].

Continuous Repurchasing Agreements

Another innovation was the 1963 introduction of *continuous repurchasing agreements* by commercial banks. This innovation came about as a response to the increase use of repurchase agreements (RP) in the Direct Capital Market. Although RP's had been in existence as far back as 1924 or perhaps even earlier, they became an active tool of security dealers in the high interest rate period of the 1950's as a means of attracting funds [33]. RP's are agreements to sell securities with the condition that they be bought back at a predetermined time and price. Often these agreements are overnight. The advantage, and novelty, of continuous repurchase agreements is that they offer the same agreements as RP's but could be extended indefinitely; thus saving on transaction costs. Once again, large, well-known banks, which have a better access to the Direct Capital Market, have comparative advantage over small, local banks in offering continuous RP's [34].

The Eurodollar Market.

Another important development, although not necessarily a recent innovation, was the rise of the *Eurodollar Market*. The major contributor to this development was that regulation Q and reserve requirements did not apply to time deposits owned by foreign accounts [35]. Thus, as the monetary authorities tighten the money supply and domestic rates were maintained low, competition for foreign accounts increased, driving their yields above regulation Q. This in turn attracted even more investors (foreign as well as domestic) to move their assets in this unregulated market. This avenue was thoroughly used by large U.S. commercial banks, who could instruct their foreign branches to buy Eurodollar deposit. The head office could then borrow from these overseas branches. Under the threat of this foreign, unregulated market, the Fed on October 1969 imposed reserve requirements on head office borrowing form abroad. The interest rate incentive to use Eurodollar market was eliminated when in June 1973 the Fed exempted large CD from regulation Q [36].

Bhc and Obhc Commercial Paper

Towards the end of the 60's the intermediary sector began to once again tap the Direct Capital Market through *Bhc and Obhc Commercial Paper*. Bhc's and Obhc raised cash in the Direct Capital Market, then transferred the cash to affiliated banks in exchange for loan portfolios [37]. This continued to be successful even after the fall of 1970, when the Fed extended reserve requirements on bank related commercial paper. As it has been mentioned in the previous section, flotation of issues has definite economies of scale, and bank related commercial paper is no different in this respect. Further, the prospect of raising cash in the Direct Capital Market provided an extra incentive for smaller banks to merge or be acquired by Bho's. These factors reinforced the Bhc's ability to consolidate the market. More on this will be seen later.

Automatic Transfer from Savings (ATS) and Negotiable Order of Withdrawals (NOW)
Two other innovations that further altered the liability and general structure of the intermediary sector were *Automatic Transfer from Savings (ATS)* and *Negotiable Order of Withdrawals (NOW)* accounts. Both innovations breached the traditional differentiations between time and demand deposits. These instruments while technically considered time or savings deposits, also offered options to utilize a portion, or the total amount, as demand deposits. It appears that large banks, commercial and depository, were more successful than smaller institutions with these instruments [38].

This struggle between banks attempting to find new avenues for liabilities and regulators attempting to bring them under control may have ended in a stalemate between these two forces. However, the struggle changed the structure of the financial sector. The degree of success in obtaining liabilities varied with not only the types but also with the size of institutions. On the whole, commercial banks were more successful than depository institutions, and large commercial banks were more successful than smaller commercial banks. As a result, the interests, relative power, and ultimately the demands of these different institutions grew wider apart. Thus, it is in this fashion that financial innovation created the necessary preconditions for the discussion and eventual enactment of the deregulation movement.

Money Market Mutual Funds (MMMF)
Liability innovation by banks was not the only type of innovation to occur during this period three other factors perhaps did more to change the structure of the financial sector than all the above innovations. The first two factors were the introduction of M*oney Market Mutual Funds (MMMF)* by the security market and the various activities of Bhc's to overcome geographic and product restrictions. The third was the expansion of branch banking

Security dealers first offered MMMF in 1972. These instruments provided several advantages for both investors and borrowers alike. Security dealers used MMMF as a hedging mechanism to maintain a steady flow of funds. This hedging is based on the general inverse relation between stock price and the rate of interest. A second, and perhaps more important, feature of this instrument is that by pooling small assets together, MMMF, perhaps for the first time, offered an avenue for small wealth owners to enter the unregulated money market. It was this latter feature of MMMF that posed the most serious disintermediation threat for the intermediary sector [39]. Banks were given some limited ability to offer substitute instruments such as *money market certificates (MMC)* and *small savers certificates (SSC)* but those had limited, success in competing against MMMF. These instruments were too inflexible when compared to MMMF. MMC had a minimum denomination of $10,000 and SSC, while having no minimum denominations, had a four-year maturity.

The cash raised by these funds are used to purchase large CD's, RP, Eurodollar Deposits, Treasury Bills and Corporate Securities Thus, on the one hand, this instrument drained funds away from the intermediary sector, but on the other, a good portion of these were channeled back into large money center banks as well as large corporations [40]. Hence, the rift among the various institutions in the intermediary sector was further enhanced by the development of MMMF.

Since the Bhc Act of 1956 the importance of Bhc's has increased dramatically. Estimating the net effect of this development has been difficult and controversial [41]. A few observations can be made with some degree of confidence. First a greater number of banks and assets have come under their control. In 1956, Bhc's affiliates totaled 428 with 7.5% of U.S. banking deposits. By 1979, these numbers increased to 2,261 and 33.3% respectively [42]. Second, the greatest percentage of this growth was in the

form of mergers and acquisitions not " De novo" banks. Estimates of " De novo " banks by Bhc's during this period range form 15 to 19% [43]. Third, Bhc's have vigorously moved into different financial services. These services include insurance, consumer lending, mortgage banking, leasing, and commercial and investment banking.

The expansion of Bhc's has affected the structure of the financial market in several ways. First, a greater number of banks, as well as a greater percentage of deposits, have been centralized [44]. Second, larger banks, through their Bhc's, could bypass geographic and product restrictions. Just as it has been found with the other developments of this period, the expansion of Bhc's further widened the rift between large and small financial institutions. Through their Bhc's, large financial institutions were able to shift their assets and liabilities from one market to the other, in accordance to expected or actual profit conditions. Small, localized institutions, on the other hand, could reap none of these benefits.

Branch Banking

Another phenomenon paralleling the effects of Bhc's is the expansion of *branch banking* The expansion and the effects, of branch banking has varied drastically from state to state [45]. Most of this variances can be explained by the difference in state branching laws. As expected, the greatest expansion occurred in states that allowed statewide branching for quite some time. Also, as it has been the case with Bhc's expansion, the greatest portion of branch expansion has occurred via mergers and acquisitions [46].

BRANCH BANKING 1955 - 1979 [47]

	Number of commercial banks	Number of branches	Percentage of banks operating branches	Average Number of branches
1955	13,716	6,710	l2.1	4.04
1960	13,472	10,216	17.3	4.39
1965	13,804	15,486	22.7	4.93
1970	13,688	21,424	29.2	5.36
1975	14,632	29,795	37.7	5.40
1979	14,708	36,403	44.7	5.53

There are three results from this increase in branching that are important for this discussion. First, it increased the average size of banks [48]. Second, since there is a "tremendous spread in the number of branches operated by individual banks", larger banks are increasing in size faster than smaller banks [49]. Finally, concentration ratio's have been higher, and have further increased in states with statewide branching [50]. Hence, any further decrease in geographic regulation is expected to further increase concentration ratio by reducing the number of organizations [51].

Thus, by the late seventies the competitive abilities and interests of the various financial institutions had substantially changed from what they were in the early sixties. The Direct Capital Market was able to tap sources traditionally reserved for the intermediary sector. In the face of this threat, and further pressed by the tight monetary policy of this period, the larger intermediary institutions responded with a series of innovations and structural changes, by introducing continuous RP, Bhc commercial paper and CD's. As a result, the competition between these two markets changed in quantity and quality.

These innovations altered the internal struggle within the intermediary sector as well. Large banks, having a comparative advantage via innovations, found themselves in a better competitive position than small banks. This competitive disparity was further exacerbated by a greater ability of larger banks to draw domestic funds, through the federal fund market, and international funds through the Eurodollar market.

It is at this impasse, where the old barriers separating the various markets and institutions were substantially weakened, that the various demands for regulatory changes began to make the political and journalistic headlines. Banks, commercial and depository, pointing to the competitive threat of the Direct Market asked for the abolition of regulation Q. Depository institutions, pointing to the various activities of commercial banks and their Bhc's demanded that portfolio restrictions be lifted [52].

Regulators themselves were hard hit by the innovative response of the financial sector. The two major problems regulators faced during this period were the exodus of member banks, and the instability of the money demand and supply functions. In 1970, member banks held 80 percent of total bank deposit. By 1979 however, this percentage had fallen to 71, and the deterioration appeared to continue. In the same year the Fed had indication that some 600 to 900 member-banks were ready to leave the system[53]. Secondly, the process of monetary policy became nearly impossible to undertake or evaluate. As a result of product innovation, both the demand and supply functions became highly unpredictable, making intermediate targeting a nightmarish process for regulators [54]. The effects of these shifting intermediary targets also became harder to predict and explain. This made policy and investment decisions very difficult. Thus, by the late 70's regulators themselves began to look for the possibility of altering the fundamental structure of the financial market.

1979 - 1982: THE DEREGULATION PERIOD

Two major acts were introduced during this period. These were the Depository Institutions Deregulation and Monetary Control Act of March 1980 (DIDMCA), and the Garn St Germain Depository Institution Act of 1982. In many respects these were a direct continuation of the previous period. They accelerated the elimination of portfolio, interest and geographic restrictions initiated by the innovations and structural changes of the previous period. The major difference of this period was in the way regulators attempted to control the financial sector, and intermediate monetary targets. As the Intermediary Sector became ever more homogenized, regulators attempted to apply the same basic regulations throughout the entire sector. The purpose of this "equalized" regulation was to eliminate the incentives for portfolio, product and institutional changes, which in the past had made monetary targets highly volatile. Secondly, in the face of increasing failures, and possible threats to the entire financial industry, regulators increased their encouragement of takeovers and acquisitions of troubled institutions.

The DIDMCA Act of 1980

The 1980 DIDMCA Act had three major purposes, and since there are many provisions to this law, only the most important ones will be mentioned [55]. The first provision was to establish a procedure for the gradual phase out of regulation Q. This was intended to improve the ability of the Intermediary Sector to compete with the Direct Capital Market in attracting liabilities.

A second provision was to increase the uses and sources of funds for the Depository Sector. The following are perhaps the most important provisions to obtain these objectives:

1. As of January 1, 1981, all institutions in the Intermediary Sector could offer NOW accounts.
2. Insured banks could offer ATS.
3. S&L were allowed to sell and hold commercial paper, and corporate debt up to 20% of their assets.

Lastly, the Fed's power and privileges were extended throughout the entire depository sector. This was a direct response to the various monetary control problems of the 70's. It obviously eliminated the exodus problem, and in some respect, by placing the same reserve requirements for all depository institutions, it diminished the incentives for product innovations.

This Act, however, did not sufficiently improve the conditions of the Intermediary Sector, or that of regulators. Disintermediation continued, mostly as a result of MMMF and the slow pace of the phase out of regulation Q. Disintermediation and shrinking profits caused a record level, of failures, placing under question the health of the entire financial sector. Faced with this threat, regulators and members of the Intermediary Sector proposed more financial reforms. Hence, the Garn—St Gerrnain Act was instituted.

The Garn-St Germain Depository Institutions Act of 1982.
This act, just like the one before it, continued to eliminate portfolio restrictions and increased the powers of regulators. The following are the most important aspect of the law:

1. Depository Institutions could offer products competitive with MMMF.
2. Federally charted thrifts could offer demand deposits to persons and organizations that have a business loan relation with that thrift [56].
3. It increased the ability of federally charted thrifts to make commercial loans.
4. It gave federal agencies, the FDIC and FSLIC, a greater power to deal with failing institutions. These powers were in the forms of greater freedom to grant guarantees, loans, organize charter conversions, and most importantly arrange mergers and acquisitions of troubled institutions.

VII. THE EFFECTS OF FINANCIAL INNOVATION AND DEREGULATION ON SMALL FIRM FINANCING.

There are three basic schools of thought on this issue. The first school argues that the effects of deregulation and financial innovation will increase competition and efficiency in the market. Hence small firms will benefit from this more efficient market. The second school asserts that innovation and deregulation have altered the structure of the financial sector towards larger, more centralized institutions. These larger, more centralized institutions, the argument continues, should be just as, if not more, efficient in judging the risk factor of small firms. Furthermore, larger more diversified financial institutions are better able to absorb the risk of small, local firms.

These two views will be contested on the grounds that their conclusions are based on a static notion of financial structure and risk assessment. Based on this contention, the third school argues that as a result of financial innovation and deregulation, the structure and behavior of the financial sector has changed, and has deteriorated the credit conditions of small firms. The primary reason for this deterioration is that smaller, local financial institutions have a comparative advantage in assessing and managing the risk of small firm lending. With the advent of innovation and deregulations however, these smaller, localized institutions have become fewer and a less important factors in the lending process.

The Competition School

The first argument asserts that product, interest and expansion regulations have limited the number of financial institutions, and thus restricted the flow of funds to riskier, small businesses. Hence, the solution to this problem lies in the deregulation of the financial sector. A more accommodative regulatory environment would increase the number and diversity of financial institutions. The result would be a more competitive and. efficient market, where credit allocation occurs strictly on a risk/return basis. Thus, as long as profits on small firm lending will be equal or greater than lending to large firms, small firms will receive ample credit. This school contests the argument that innovations and deregulation will alter the structure of the financial system in a way that will undermine small firm lending by pointing out that even if the structure of the financial sector were to change, large banks and Bhc's have maintained and even expanded their activities in the small firm credit segment [57].

The Risk-Factor School

The second school does consider the structural changes resulting form innovation and deregulation to be significant. It points to the increase in bank size, branching, geographic and other types of diversification as the major components of those structural changes. It argues that these changes, however, do not necessarily undermine small, borrowers. It argues that the factors that have reduced small financial institutions will replace them with larger ones. With this change, the deciding factor of whether small firms will obtain credit will be based on the relative profitability of small firm lending.

This school considers risk assessment to be one of the crucial factors in creating a more efficient market. It argues that larger more versatile financial institutions have had more experience and may have developed a more systematic method of risk assessment. It does concede that small, local institutions may have an advantage in overcoming the asymmetry of information, but in the final analysis it concludes that large institutions should perform just as well, if not better, in providing small firm credit [58].

Proponents of this school also point out that as the average size and diversification of an institution increases its ability to absorb local risk also increases [59]. Thus, larger institutions should be more willing to lend to riskier small, local firms.

The above schools have arrived at the same basic conclusion by assuming that the behavioral function of financial institutions, specifically risk assessment, and management, is constant as the structure of these institutions changes. It is this assumption that differentiates the first two schools from the third perspective.

The Structural-Behavior School

This school argues that because of the because of the asymmetrical nature of the information on small firms, the borrower-lender relation becomes the crucial factor determining the price and availability of small business lending. Financial innovations, especially those on the liability side, have undermined the ability of small, local banks and businesses, to obtain adequate and reliable funds. In addition, the deregulatory, acts of 1980 and 1982 have furthered this process. These legislations have also enhanced geographic expansion, and the merging and acquisitions of smaller institutions.

This school argues that small firms have historically preferred to deal with small, local banks. This is no accident. Small, firms have received more credit and at a better price from small, local banks. Furthermore, small firms feel, that small local banks know them and their business best, and are a more reliable and equitable judge of their ability to pay back their loans. It also point out that there is no

indication that the new structure has improved the credit conditions of small firms. However, there are indications, however, that the credit condition of small firms has deteriorated.

For example, available data indicates that 73% of small firm lending is done by small to medium sized banks. It also shows an inverse relation between bank size and small firm lending.

Bank's asset	Median ratio of amount of small business loans to total business loans, as of June 30, 1981 [60]
Less than 1,00 Million	95
100 mill - 1 billion	77
Greater than 1 billion	13

The National Federation of Independent Business (NFIB) has taken a poll of how the credit needs of small firms were met. These data also indicate, although to a lesser extent than the above data, that small banks do better at meeting the credit needs of small firms.

Bank Size ($ Millions)	All, credit needs met 1980	1982	1984
Less than 100	58	52	*57*
100—500	54	51	54
Greater than 500	52	49	50

Hence as banks increase in size the tendency of meeting the credit needs of small businesses decreases. A good number of deregulation proponents argue that product deregulation and innovations will allow other financial institutions to enter the market for small firm credit. These alternatives sources include finance companies, venture capital and pension funds [61]. The NFIB Data, however, indicates that financial innovation and deregulation have done little to increase the total, amount of lending by these alternative sources. These sources have provided a consistent 9 - 10% of total loans made to small business from 198 0 - l984 [62].

	ALL LOANS		
Loan source	1980	1982	1984
banks	85%	84%	84%
private individuals	5	6	5
governments	1	1	1
finance companies	*2*	2	*2*
insurance companies	1	1	1
factors/credit cards	*	*	*
coops/credit unions	1	1	1
savings and loans	*2*	2	*2*
others	4	3	4

* indicates less than 1%.

The second factor that has undermined the credit availability for small firms is branch expansion. Once again NFIB data indicates that loan rejections are higher at branches than at headquarters. As these single unit headquarters are taken over by larger institutions and turned into branches, the credit availability for small firm also decreases. The higher rejection level in statewide branching also supports this conclusion. The rejection level in statewide branching is 50% to 200% higher than other states [63].

	Distribution of all firms			Accepted			Rejected [64]		
Loan source	80	82	84	80	82	84	80	82	84
Principal bank headquarters	87	58	71	86	90	90	12	7	8
Principal bank branch		28	19		81	79		15	16

More important than lower-cost credit is the personal relation that small firms have with their local bankers. NBIF data shows that this factor is the single most important desired characteristic in banking relationships.

DESIRED CHARACTERISTICS IN A BANKING RELATIONSHIP AND PRINCIPAL BANK PERFORMANCE (Respondent evaluation)

CHARACTERISTICS	1980	1982	1984
Knows you and your Business			
Desired characteristic	67%	68%	65%
Actual performance	46	46	44
Provides helpful Business Suggestions			
Desired	24	21,	21
Actual	20	18	17
Offers the cheapest money			
Desired	47	50	46
Actual.	26	22	21
One person handles credit needs			
Desired	40	40	39
Actual	44	44	44
Convenient location			
Desired	39	30	31
Actual	52	55	55
Easy access to loan officer			
Desired	na	*42*	41
Actual	na	50	49
Reliable source of credit			
Desired	54	55	52
Actual	46	48	48
Knows your industry			
Desired	29	27	24
Actual	24	21.	21

Hence, the advantages that small, local, financial institutions have due to their specific knowledge of their markets is also of great value to small firms. As it has been argued above, this in-depth knowledge of small firms, their managers and owners has a great influence on their credit availability. However, as the banking system moves away from the smaller, unit type of banking to a larger, more centralized structure, this personal relation in banking, will dwindle away. As a result, small firms will find it harder to prove their credit worthiness. Even proponents of deregulations do not contest that the lending process will move in this direction [65]. Some of the reasons for this behavioral difference between larger and smaller institutions are the longer chain of commands, the higher mobility of personnel and the higher organization and structural needs of larger banks.

VIII. CONCLUSION

The argument of this paper is that the asset and informational structure of small firms necessitates a specific and informal relationship with lending institutions. Furthermore because of the asymmetrical nature of the information on small firms, the evaluation of the firm's human capital often becomes the only basis for assessing the expected risk of the small firm. Under these conditions, the borrower-lender relation becomes the crucial factor determining the price and availability of credit.

The most important effect of financial innovation and deregulation on small firm credit has been the altering of this relation. The second way in which these two phenomena altered the credit conditions of small firms is by increasing the size and level of centralization of the financial sector. This structural change coupled with the existing economy of scale made small firm lending a relatively less profitable investment.

This study does not imply a necessity of returning to the old regulatory structure. It does imply, however, that both financial regulators and institutions should consider the potential benefits of maintaining, and possibly reconstituting, the small localized financial institution within the new centralized framework.

If the independent, localized nature of the small institution is maintained, mergers, acquisitions and branch banking may prove beneficial for all concerned parties. Small financial institutions can continue their profitable relation with small firms. Large institutions, on the other hand, may find the relative steady flow of funds and profits from these small institutions an excellent hedge against the fluctuations often associated with large scale financing. The regulator's demand for stability and efficiency will also be met in this scenario.

IX. FOOTNOTES

1. As of 1985 the Small Business Administration and most of the literature on the subject define a small business as one which employs less than 500 people and has assets of less than $10 million. U.S Small Business Administration (SBA) march, 1984 P. 182.
2. Richarson Pettit and Ronald Singer, Autumn, 1985.
3. Thomas F. Brady, January 1982, SBA, Op Cit.
4. To some degree lenders have been doing this. Although some have raised the concern that certain types of financial innovations, like the development of a secondary market for loans, will decrease the incentives to continuously monitor the health of loans. Albert Wojnlower, Oct. 1985.
5. Richarson Pettit and Ronald Singer, Autumn, 1985.
6. Churchill Lewis and Cox Summer. 1985.
7. This comment was provided by Ms. Roxanne Szetela, VP and Small Business Loan Officer at National Westminster Bank, USA, Brooklyn Branch, NY.
8. Richarson Pettit and Ronald Singer, Autumn, 1985.
9. Asymmetry can be attributed to many factors. The most important of these is the tendency of smaller firms to be privately owned, and thus they are not obligated to make certain information available to the public, as is the case with publicly owned firms. A second factor at play may be that smaller firms generally operate in smaller, less organized, local markets. * Pettit and Cornell, June 1980
10. Cowen S. Scott and Albert L. Page, Autumn 1979. pp 184-188, and Robert B. MacDonald, Sep. 6, 1984, pp 28-30, Robert R. Banta, Prepared statement before the Committee on Small Business, House of Representative, 9th congress, 2nd Session, May 10-20, 1982, pp 42-50. Also, Robert L. McCormick, Idid. pp. 70-76, Robert P. Kobelisnski, Ibid. pp. 173-176, Robert B. Willumstad, Ibid. pp. 180-182
11. Robert R. Banta, Prepared statement before the Committee on Small Business, House of Representative, 9th congress, 2nd Session, Sep. 6, 1984.
12. Some of the studies done on this issues are: 1) Benston, G.J., June 1965, 2) Bell. F.W. and N.B. Murphy 1968, 3) Longbrake, W.A., 1974
13. Neil Murphy, Dec. 1982, pp 13-15
14. Ibid, p. 17
15. For a perspective of the relative importance of equity finance for small firms see SBA, 1985, p108.
16. SEC, "recommendations of the Securities and Exchange Commission, Forum on Small Business Capital Formation, "Joint Hearing…Committee on Small Business, House of Representatives, 97th Congress, 2nd Session, 1982, p108.
17. Richarson Pettit and Ronald Singer, Autumn, 1985, and H.R. Stoll, 1982.
18. SEC, op.cit. p. 9.
19. Andrew and Eisman, Nov., 1981
20. SEC, op.cit. p. 84.
21. Richarson Pettit and Ronald Singer, Autumn, 1985; SEC, 1982; and H.R. Stall, 1984.
22. Richarson Pettit and Ronald Singer, Autumn, 1985.

23. SEC, 1982, p.111
24. Ibid. p. 15
25. With the exception of the section on the regulation of the direct capital market, the historical events, but not their interpretation, is based on a reading of Thomas F. Cargill and Gillian G. Garcia, 1984.
26. This section is based on a limited reading of John W. Hazard and Milton Christie, 1964.
27. Although the SEC oversees and approves these rules.
28. FrancoModigliani and Richard Stutch, May l966, pp. 178-197
29. James L. Piere, May l984, Robert A. Eisenbeis, Winter 1981
30. See Manuscript p. 6
31. Cargill and Garcia, 1984 p. 107, also Gary Arthur Dymeski, July 1983 p. 19
32. Dymski, July 1983, p.24
33. B.P. Wills, August 1966
34. Cargill and Garcia, 1984 p. 106, also Gary Arthur Dymeski, July 1983 p. 18
35. Continuous RP can be considered a liability innovation in that through this instrument banks obtained short-term cash, at market rates, by making an offering in the direct capital market.
36. The 1958 abolition of most exchange regulations was another catalyst to the expansion of this market. John Karlik, 1977
37. ibid.
38. Dymski, July 1983, p.30.
39. Dymski, July 1983.
40. Carl M Hubbard, Oct. 1984
41. Joseph F. Sumanski, prepared statement before the Committee on Small Business, 98th Congress, 2nd Session, May 1982 pp.265-267, and Robert P. Banta, op.cit. P. 48
42. Dymski, July, 1983, and Savage, Nov. 1981
43. Donald Savage, Nov. 1981
44. Ibid, p 95.
45. This of course, follows that 81-85% of Bhc's expansions occurred in the form of mergers and acquisition.
46. Donald Savage, Nov. 1981, p. 5
47. Ibid, pp. 13-14
48. Ibid, p 3.
49. This conclusion is derived by observing that the average number of branches per branching banks is increasing.
50. Donald Savage, Nov. 1981
51. Ibid.
52. Alan S Mc Call, l984
53. See Frank S. Swain, Robert H. Banta, Howard T. Glover, prepared statements to the Committee on Small Business, House of Representative, 97th Congress, 2nd Session, may l9-20, 1982,
54. Cargill and Garcia, l984, p. 51
55. For a theoretical view of how financial innovation affects monetary policy see. John Weinniger 1984. Also see Broaddus Alfred, 1985 and Pierce James, 1984.

56. For a more detailed discussion on these laws see Cargill 1984, and Garcia 1982.
57. This is an important development for small firm lending, since demand deposits is one of the ways a lender can monitor the activities of a small borrower.
58. For various examples of this approach see: Stephen Mathis and Thomas Ulrich, Jan/Feb 1982, pp 41-45; Alan McCall prepared statements before the House Committee on Small Business, 98th Congress, 2nd Session, Sep. 6, 1984 pp. 10-12; John McClure, March, 1985, pp. 44-45.
59. This argument is carefully presented by professor Richardson Pettit. See Richardson Pettit, prepared statements before the House Committee on Small Business, 98th Congress, 2nd Session, Sep. 6, 1982.
60. Frank S. Swain, prepared statements to the Committee on Small Business, House of Representative, 97th Congress, 2nd Session, may, 1982.
61. Cinthia Glassman and Peter L. Struck, January 1982, pp. 7-40.
62. NFIB, CREDIT, BANKS AND SMALL BUSINESS; 1980 –84, March 1985. To some degree these results are expected to show a lesser striking difference in banks. This results from the way the latter study subdivides the various banks. Specifically, the largest category in the latter study starts with banks having assets greater than $500 million. Whereas, in the former study the largest category starts with banks of assets greater than one billion.
63. Alan McCall prepared statements before the House Committee on Small Business, 98th Congress, 2nd Session, Sep. 6, 1984 pp. 6-12. Frank S. Swain, prepared statements to the Committee on Small Business, House of Representative, 97th Congress, 2nd Session, may, 1982, pp. 10-31. William H. Sager, and Alen Neece Jr., Ibid, pp. 268-272, Andrews and Eisman, Nov 1981.
64. NIFB, 1985, p. 5
65. Peter L. Struck and Lewis mandell, June 1983, pp. 1025-1031, and William J. Dennis Jr. prepared statements before the House Committee on Small Business, 98th Congress, 2nd Session, Sep. 6, 1982, p.71.
66. the 1980 survey did not separate the principal bank category into headquarters and branches (data) on total small and large firm lending.
67. Richardon pettit, September, 1984.